

CLAIMS

1. A method of passing validated information along a series of entities, the series of entities including a source entity, a series of at least one intermediate entity, and a target entity, wherein each of the entities shares a validation parameter with its immediately neighbouring entity or entities in the series, the method comprising the steps, commencing in the source entity, of:
- (a) in the current entity, generating a validation code for the information, the validation code being based on the validation parameter shared between the current entity and the next entity in the series;
- (b) outputting the validation code;
- (c) receiving the validation code in the next entity in the series and making that entity the current entity;
- (d) verifying the information via the validation code in the current entity using the validation parameter required to verify it;
- (e) repeating steps (a) to (d) until the last intermediate entity in the series has output the validation code it generated;
- (f) receiving the validation code in the target entity and verifying the information via the validation code and the validation parameter required to verify it.
2. A method according to claim 1, wherein step (b) includes the substep of outputting the information.
3. A method according to claim 1 or claim 2, wherein step (f) includes receiving the information and using it during the verification.
4. A method according to claim 1 or claim 2, wherein step (c) includes receiving the information and using it during the verification.
5. A method according to claim 1, further including a controller in contact with at least some of the entities, the controller being configured to pass the information and/or the validation codes between adjacent entities in the series.
6. A method according to claim 5, wherein step (a) is performed in response to an instruction issued by the controller.
7. A method according to claim 6, wherein the instruction includes a request for the information upon which the validation is to be performed.
8. A method according to claim 1, wherein the validation code is a digital signature produced by a digital signature function using the information and the validation parameter as operands.
9. A method according to claim 8, wherein the validation parameter is a key

10. A method according to claim 9, wherein the key is a symmetric key
11. A method according to claim 8, wherein the validation parameter is an asymmetric key-pair, and the public and private components of the key-pair are in respective neighboring entities in the series.
- 5 12. A method according to claim 9 or 11, wherein the validation code is a digital signature generated with a digital signature function using the key or key-pair component, the information and at least one nonce as inputs.
- 10 13. A method according to claim 12, wherein the at least one nonce is generated in the current entity in response to an instruction issued by the neighbouring entity of the current entity closer to the target entity.
14. A method according to claim 13, wherein the at least one nonce is randomly, pseudo-randomly or arbitrarily generated number.
- 15 15. A method according to claim 12, wherein the at least one nonce is supplied to the current entity in an instruction issued by the neighbouring entity of the current entity closer to the target entity.
- 20 16. A method according to claim 15, wherein the nonce is randomly, pseudo-randomly or arbitrarily generated number.
17. A method according to claim 1, wherein a different validation parameter is used for the validation step performed at any two adjacent entities.
- 25 18. A method according to claim 1, wherein at least one of the entities is an integrated circuit.
19. A method according to claim 1, wherein the target entity is a printer controller integrated circuit.
20. A method according to claim 1, wherein the source entity is a printer controller integrated circuit.
- 30 21. A method according to claim 1, wherein either the source entity or the target entity is a printer controller integrated circuit and the at least one intermediate entity is a verification chip associated with the printer controller.
- 35 22. A method according to claim 5, wherein the controller is a printer controller integrated circuit.
23. A method according to claim 5, where one of the entities is the controller.
24. A method according to claim 21, wherein the printer controller has a relatively unique identity and
- 40 the verification chip includes a key based on the unique identity.

25. A method according to claim 1, wherein the source or target entity is an integrated circuit associated with a package that contains ink.